SMD Schottky Barrier Diode

Comchip
SMD Diode Specialist

CDBU42/43-HF

I_O = 200 mA
V_R = 30 Volts
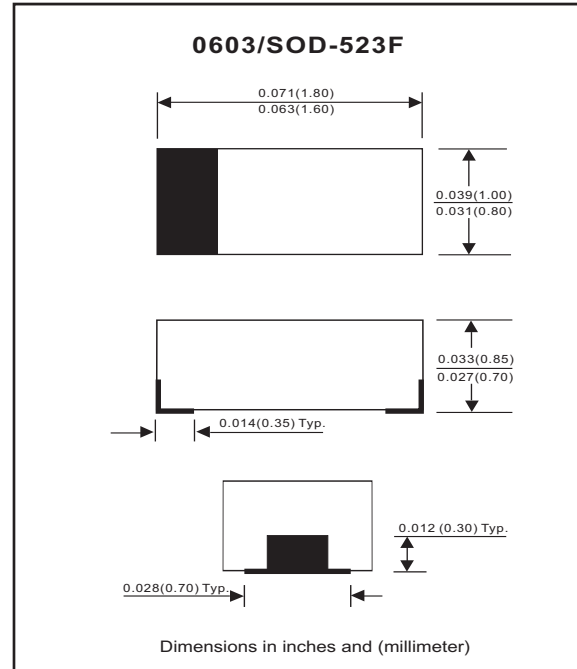## RoHS Device
Halogen Free
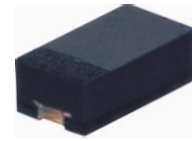
Features

- Low forward voltage.
- Designed for mounting on small surface.
- Extremely thin / leadless package.
- Majority carrier conduction.

Mechanical data

- Case: 0603/SOD-523F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking code:
  CDBU42-HF : BD
  CDBU43-HF : BE
- Mounting position: Any
- Weight: 0.003 gram(approx.).

0603/SOD-523F

0.071(1.80)
0.063(1.60)

0.039(1.00)
0.031(0.80)

0.033(0.85)
0.027(0.70)

0.014(0.35) Typ.

0.012 (0.30) Typ.

0.028(0.70) Typ.

Dimensions in inches and (millimeter)

Maximum Rating (at T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Peak reverse voltage		V_{RM}			30	V
Reverse voltage		V_R			30	V
RMS reverse voltage		$V_{R(RMS)}$			21	V
Average forward rectified current		I_O			200	mA
Repetitive peak forward current		I_{FRM}			0.5	A
Forward current, surge peak	8.3 ms single half sine-wave superimposed on rate load(JEDEC method)	I_{FSM}			4	A
Power dissipation		P_D			150	mW
Thermal resistance junction to ambient air		$R_{\theta JA}$			667	°C/W
Storage temperature		T_{STG}	-55		+125	°C
Junction temperature		T_j			+125	°C

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter		Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	CDBU42/43-HF	I_F = 200mA	V_F			1	V
	CDBU42-HF	I_F = 10mA				0.4	
	CDBU42-HF	I_F = 50mA				0.65	
	CDBU43-HF	I_F = 2mA				0.33	
	CDBU43-HF	I_F = 15mA				0.45	
Reverse current		V_R = 25V	I_R			0.5	uA
Capacitance between terminals		f = 1 MHz, and 1 VDC reverse voltage	C_T			10	pF
Reverse recovery time		I_F=I_R=10mA, Irr=0.1xI_R, RL=100 ohm	T_{rr}			5	nS

REV:A

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RATING AND CHARACTERISTIC CURVES (CDBU42/43-HF)

Fig. 1 - Forward characteristics

Forward current (mA) vs Forward voltage (V)

Curves: 125°C, 75°C, 25°C, -25°C
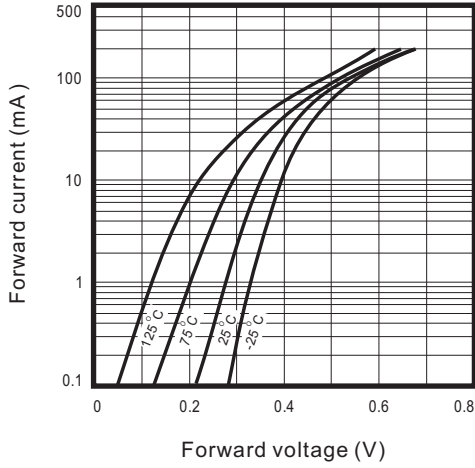
Fig. 2 - Reverse characteristics
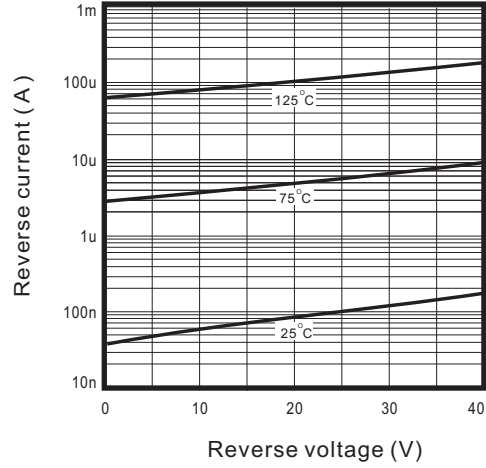
Reverse current (A) vs Reverse voltage (V)

Curves: 125°C, 75°C, 25°C

Fig.3 - Capacitance between terminals characteristics

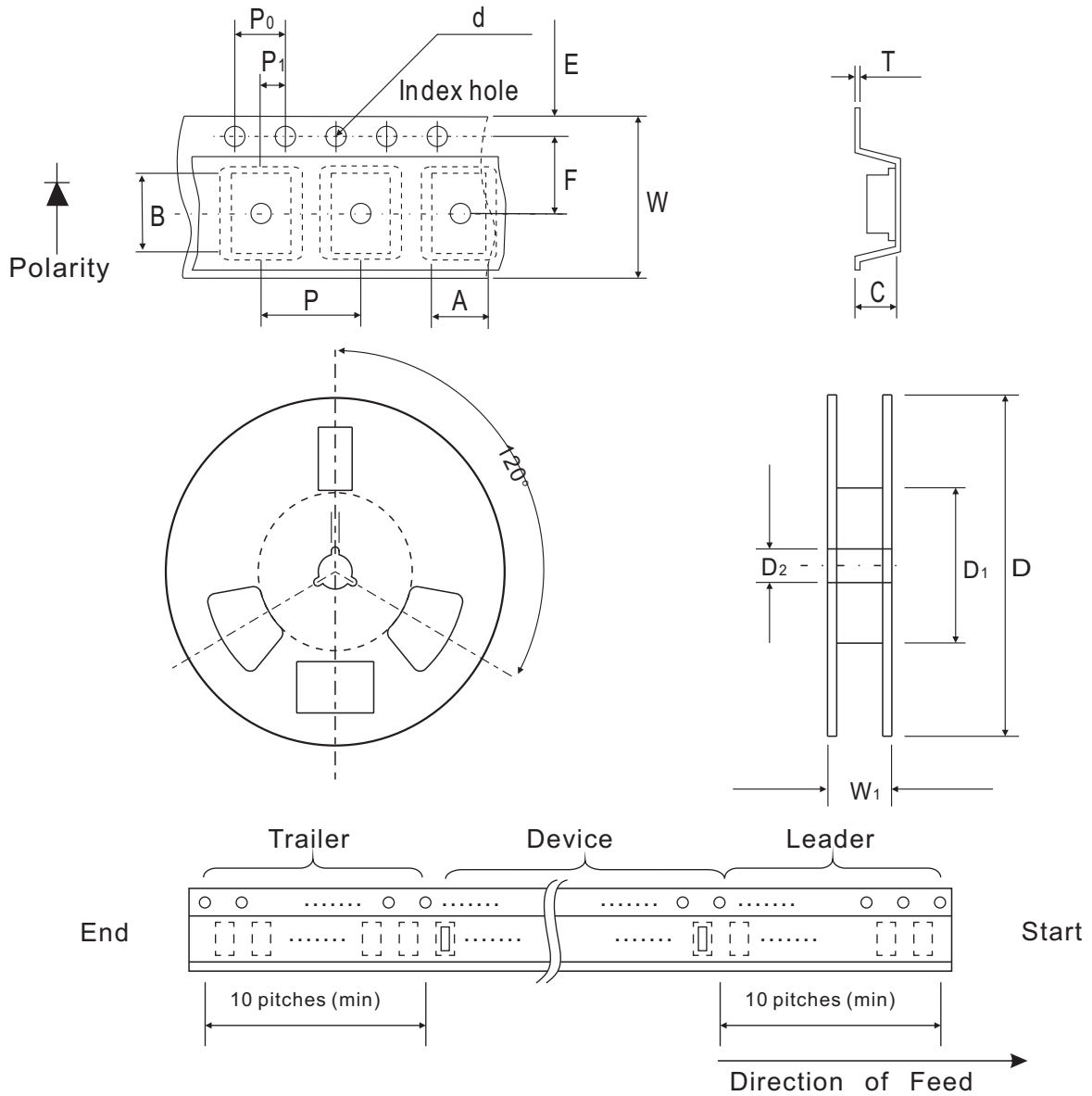Capacitance between terminals (pF) vs Reverse voltage (V)

f=1MHz
$T_A=25\,^{\circ}C$
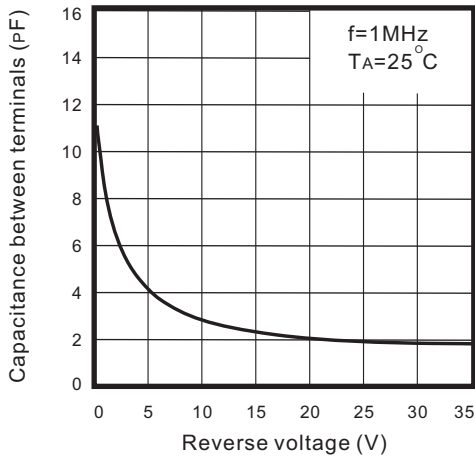
Fig.4 - Current derating curve

Average forward current(%) vs Ambient temperature (°C)

Mounting on glass epoxy PCBs

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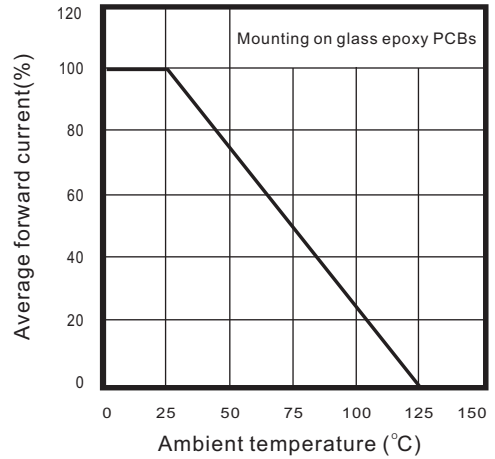
Reel Taping Specification

	SYMBOL	A	B	C	d	D	D₁	D₂
0603 (SOD-523F)	**(mm)**	1.00 ± 0.10	1.85 ± 0.10	1.00 ± 0.10	1.55 ± 0.05	178 ± 1	60.0 MIN.	13.0 ± 0.20
	(inch)	0.039 ± 0.004	0.073 ± 0.004	0.039 ± 0.004	0.061 ± 0.002	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

	SYMBOL	E	F	P	P₀	P₁	T	W	W₁
0603 (SOD-523F)	**(mm)**	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.23 ± 0.05	8.00 ± 0.20	13.5 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.008	0.531 MAX.

SMD Schottky Barrier Diode

Marking Code

Park Number	Marking Code
CDBU42-HF	BD
CDBU43-HF	BE

XX

xx = Product type marking code

Suggested PAD Layout

SIZE	0603/SOD-523F	
	(mm)	(inch)
A	1.70	0.067
B	0.60	0.024
C	0.80	0.031
D	2.30	0.091
E	1.10	0.043
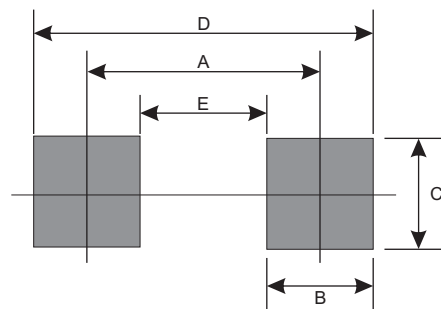
Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
0603/SOD-523F	4000	7

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